Statistical Bulletin

METROPOLITAN LIFE INSURANCE COMPANY

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Health in American Army Camps

THE health record of our soldiers in the United States has continued to be generally satisfactory during the past year, although in recent months a moderate increase over the previous year's figures has been recorded in both sickness and death rates. This situation, evident from an analysis of the Army's weekly statistics of admissions to sick report,* is not unexpected. For, aside from ordinary year-to-year fluctuations which are inevitable, there have been significant changes in the make-up of that portion of the Army personnel which is located in the United States. Among such changes are the lowering of physical standards for admission in the course of the continued expansion of the Army, and presumably the more frequent induction of men in their 30's, while the younger and most fit predominate among those sent overseas.

For several months after May 1942, when the Army health situation was last reviewed in the STATISTICAL BULLETIN, sickness rates in the Army, as measured by admissions to sick report *for disease*, showed distinct improvement over the previous year, and mortality rates from disease were exceptionally favorable. But, beginning late in October last year, and right up through May 1943, morbidity rates showed a setback as compared with the previous year, paralleling in some degree the situation in the civilian population. Mortality from disease also showed a moderate rise from October through February, which is as far as mortality figures available to date extend. For the year 1942, as a whole, the sickness rate was appreciably lower than for 1941, and the death rate very slightly lower, but enough so to establish a new low record.

In the first five months of 1943 the admission rate for disease has averaged about 840 per 1,000 per annum, or 13 percent above that of a year ago, although there was the usual seasonal fall in the rate for April and May. Thus far in 1943 the disease record is distinctly better, however, than that prevailing two years ago when, because of the widespread prevalence of influenza, admissions during the early part of the year averaged about 1,350 per 1,000 per annum. Furthermore,

*This term includes report both on account of disease and also on account of accidental injury.

recent rates for all diseases combined are far below those prevailing in training camps during the first World War, even if the many cases of influenza and pneumonia, which were then epidemic, are omitted from the reckoning.

The most notable feature of the disease situation in the Army has been the prevalence of "atypical" pneumonia. Thousands of such cases have been diagnosed among soldiers, although the disease has generally been mild in character. Indeed, so interested have Army physicians been in this condition, and so alert in the detection of cases that, unquestionably, many have been recorded which, in the ordinary circumstances of civilian life, would have gone undiagnosed. While the prevalence of such pneumonias was widespread, the case fatality has been quite low. This is especially remarkable because, as has already been noted in the STATISTICAL BULLETIN, the sulfa drugs, which have been so highly successful in the treatment of pneumococcus pneumonias, are practically useless in atypical cases. In recent weeks the prevalence of these pneumonias had begun to decline, and in the last two weeks of May they were about 35 percent below the peak in the first half of January. But reported cases are still much more numerous than a year ago.

With the constant influx of new men to our growing Army, the communicable diseases have continued to figure prominently in the morbidity picture. During the past year there have been sizable numbers of cases of scarlet fever, measles, and mumps. In some places outbreaks approaching epidemic proportions have occurred. The greatest increases relatively have been in scarlet fever and measles. However, at no time since our new Army began to be formed has the incidence of these diseases reached the levels of the last war. Despite the increase during the past year, the rates have also been well below the peaks reached in the early part of 1941, except for mumps, which has only slightly exceeded the 1941 peak. Fatal cases of these communicable diseases have been rare, whereas during the first World War the only diseases outranking measles as a cause of death among soldiers were influenza and pneumonia.

As in the civilian population, there has been a notable increase in the prevalence of cerebrospinal meningitis in recent months. But the incidence rate of the disease at the peak, which apparently has already been passed, was below the peak rates of 1917-1918. Moreover, thanks to sulfa drug therapy, the fatality rate from the disease has been extremely low. During the first World War, more than one third of the cases died.

Venereal disease still constitutes a major health problem for the Army. However, not only has an increasing measure of control been exercised, but the situation is vastly superior to that which prevailed in the first World War. Admission rates in 1943, down to the end of

May, have averaged almost exactly the same as in the corresponding period of last year, although very recently the trend has been to higher rates. An increased proportion of men with such diseases is being inducted into the Army, and a large fraction of the total admission rate for venereal disease in recent months represents infections that existed prior to induction of the men. Further reduction in the time lost from these preventable diseases is, of course, highly desirable. The Army is fully cognizant of the problem. The civil authorities and the general public, through voluntary agencies, can support the efforts of the armed services by cooperation with them in controlling sources of infection, and by helping to increase the wholesome recreational facilities available for soldiers in or near the large camps located at a distance from big cities.

A highly favorable feature of the Army health picture is the sharp decline, over the past year or more, in the incidence and mortality from accidental injuries. This decline may come as a surprise in view of the enormous expansion of our air training program, with its naturally high accident risk to cadet pilots, the high degree of mechanization of the Army, and finally of the intensification of maneuvers during training, with their closer simulation of actual battle conditions. Whatever tendency toward increase in accident rates would result from these factors has been counterbalanced by other factors. In large part, this probably reflects the lesser degree of exposure to accidents among the hugely expanded technical forces in training, as well as among the increased numbers of limited service men in supply and certain other branches of the Army. To some extent, also, the improvement in accident rates is due to the Army's consistent and effective safety campaign. In fact, the Army has been successful in reducing substantially the flying accident rate even among pilots in training. The country may be proud of these achievements.

Summer Babies Are Best

Not only is summer the season when most babies are born, but it is also the time when the best babies are born, and, what is not quite the same thing, it is the best time for babies to be born.

By best babies is meant not necessarily the best behaved or the best tempered, but those best equipped constitutionally to withstand the rigors and special hazards of early infancy. They are the best babies in the sense that among them, statistically, deaths from causes or conditions attributable to congenital defects are at a minimum. Such conditions, in particular, are stillbirth, premature birth, congenital debility, and congenital malformation. The pertinent facts are shown graphically in the upper panel of the chart on page 4. This is based on

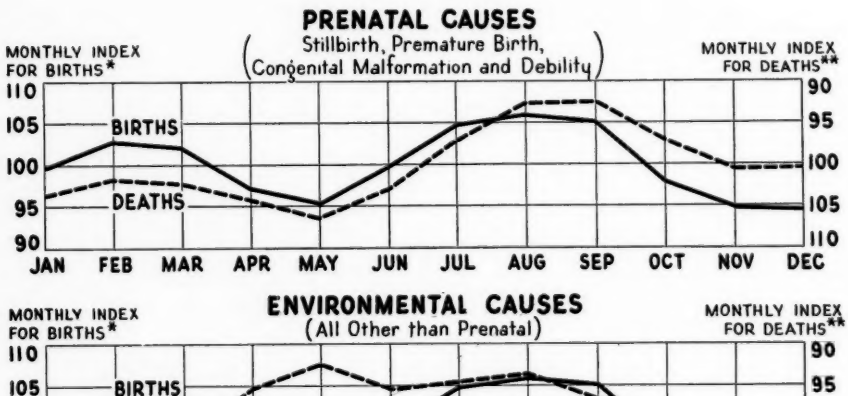
data compiled from the reports on *Birth, Stillbirth, and Infant Mortality Statistics* issued by the United States Bureau of the Census for 1935, 1936, and 1937, the latest years for which data are available.

From these reports it has been possible to compute the relative infant mortality from selected groups of causes among children classified according to their month of birth.

The winter and spring months are apparently the least favorable to the unborn child. Stillbirths, the majority of which are due to death of the fetus before labor, are more frequent among babies born in the first five months of the year than among those born in July, August, and September. Deaths due to premature birth and congenital defects are also more common among babies born in spring than among those born in summer and autumn. The highest rate for both stillbirths and deaths from prenatal defects is that for children born in May, the very month at which the number of births is relatively at a minimum. Conversely, the months of July,

INFANT MORTALITY BY MONTH OF BIRTH COMPARED WITH SEASONAL VARIATION OF BIRTHS

UNITED STATES, 1935-1937



*Daily births in specified month, as percent of daily births for entire year

**Infant mortality of children born in specified month, as percent of annual average.

Metropolitan Life Insurance Company

August, and September, when births are at a maximum, are the very months whose children have the lowest death rate from congenital conditions. All this is clearly shown in the first graph in the chart on page 4, in which, in order to aid the eye, the scale for deaths is inverted. It must be understood that in this chart the relative death rates (curve of dashes) are plotted against the month of birth—not against the month of death. So, for example, the reading of 92 percent for the month of September means that among the children *born* in September the death rate from congenital causes was 92 percent of the annual average for these causes, as read from the right-hand scale of the diagram. On the other hand, the solid line gives the average daily birth rate for each month according to the scale at the left-hand side of the curve, in percentages of the annual average.

One naturally looks for an explanation of the phenomenon thus exhibited. No doubt the trying effects of winter upon the health of pregnant women plays a leading role. That this is so is attested by the fact that the maternal mortality in the first six months of the year is definitely higher (by about 20 percent) than that during the last half. This holds true for all the principal causes of maternal mortality.

It is indeed fortunate that prenatal defects and certain other causes of infant mortality run contrariwise to the seasonal cycle of births; that in summer, when the birth rate is highest, the forces that tend to produce defective and nonviable offspring are least active, and that when these forces are at their maximum they come at a season when relatively fewer babies are exposed to these special risks.

But, as stated at the outset, summer is not only the time when the best babies are born—it is also the best time for a baby to be born. The basis for this statement is the relative mortality of very young children from causes due to environmental conditions, in particular communicable diseases of early infancy. As shown in the lower panel of the chart, these also exact their major toll among babies born in the late fall and winter. This is particularly true of the respiratory conditions. Children born in late spring and summer have a far better chance to escape the ravages of these diseases than those born in December and January, mainly because, as a rule, they do not have to encounter these influences until the following winter, by which time they are better constituted to resist infection.

Somewhat different is the situation regarding gastrointestinal diseases. As regards these, babies born in October and November are probably most favorably situated, since by the time next summer comes around they are old enough to offer more resistance to these summer affections. In the grand total nowadays this is a minor item, so that the infant mortality picture is dominated mainly by the congenital and respiratory conditions. This is a

modern development. The older generation well remembers how summer was the danger season for babies on account of the high death rate from diarrhea and enteritis. It is in these intestinal disorders that the greatest improvement in infant mortality has taken place.

Thus comes about the remarkable and very fortunate situation that summertime, when the birth rate is at its maximum, is, first, the time when the best babies are born, and, secondly, the time when the babies born have the best chance to survive against the hazards of infection.

Ideal Weights for Men

THE widespread public interest in the table of "ideal" weights for women, published in the October 1942 issue of the STATISTICAL BULLETIN, brought numerous inquiries for a similar table for men. Such a table has been prepared and appears on page 7. Actually there is no single set of best weights for all men of a given height. Many physical characteristics—the type of skeletal structure, breadth of shoulders, length of trunk in relation to total height, musculature and other factors—naturally result in variations in body weight. These factors are taken into account in the table which gives a range of "ideal" weights, at each inch of height, for three separate build groups—slight, medium, and heavy.

The table, as will be seen, makes no distinction of age, but applies to all men 25 years or older. The weight tables commonly used heretofore were based upon *average* weights, and showed a progressive increase with age. Thus, even for men of medium height, the averages rose 12 pounds between ages 25 and 50. Statistical investigation has shown such increases to be undesirable from the standpoint of health and longevity.

Today, control of body weight by men, as well as by women, is more urgent than ever before. Conservation of food is a prime wartime requirement in order that there shall be enough properly to feed our fighting men, and to help supply the civilian populations of our allies abroad. Overeating, which even in peacetime is an indefensible habit of self-indulgence, is little short of scandalous today. Thanks to the rationing program, there will be a fair distribution of foods of which present or prospective supplies are limited. Rationing should prove a blessing to overweights, although continued overconsumption of nonrationed foods would be not only wasteful but harmful.

In addition to these special wartime reasons, there are compelling health reasons to control one's weight. It should be more generally known that even the carefully selected overweights accepted for Life insurance have a mortality appreciably above that of their slenderer fellows. In fact, so conscious are Life insurance companies of the

bad effect of overweight on longevity, that this condition is the most common cause of restriction of coverage to substandard insurance. The excess mortality increases with the degree of overweight. Those with 20 percent overweight show mortality approximately one third higher than average; those with 30 percent overweight, approximately one half higher; those with 50 percent overweight show mortality practically double that for average weight. The contrast, especially after midlife, is greater if comparison is made with underweight men, whose mortality is even lower than that of average weight men. These comparisons, unfavorable as they are to overweight men, are based upon the best of the group. If all overweights were included, their unfavorable longevity would be even more pronounced.

Overweight, particularly if it is of substantial degree, puts a very real strain on practically all vital functions of the body, hastens deterioration, and eventually brings about premature death. This is indicated by the earlier development among overweights of the diseases of the heart, kidneys, and blood vessels. The mortality from coronary artery disease and other degenerative heart conditions among overweights is more than 1½ times that of average-weight men; for chronic nephritis the mortality is about 1¾ times as high. Similarly, the death rates from liver and gall bladder diseases and from appendicitis are higher among overweights than among those of slighter build. In part, this extra mortality arises from the fact that the obese are generally poorer surgical risks than normal and underweight men.

Relatively, the most striking penalty for overweight is diabetes. The death rate from this disease among men 25 percent or more overweight, has been found eight times as high as among average weight persons; and as compared with underweights, 13 times as high. Several years ago the Statistical Bureau of this Company, analyzing the records of the George F. Baker clinic of Boston, found that among 1,900 men whose diabetes began after age 35, more than 80 percent were overweight (5 percent or more above average weight for age) before the onset of the disease. Well over half of these men were at least 20 percent overweight, and about one sixth were at least 40 percent overweight.

"IDEAL" WEIGHTS FOR MEN.
AGES 25 AND OVER.

HEIGHT (with shoes)		WEIGHT IN POUNDS (as ordinarily dressed)		
		Small Frame	Medium Frame	Large Frame
Feet	Inches			
5	2	116–125	124–133	131–142
5	3	119–128	127–136	133–144
5	4	122–132	130–140	137–149
5	5	126–136	134–144	141–153
5	6	129–139	137–147	145–157
5	7	133–143	141–151	149–162
5	8	136–147	145–156	153–166
5	9	140–151	149–160	157–170
5	10	144–155	153–164	161–175
5	11	148–159	157–168	165–180
6	0	152–164	161–173	169–185
6	1	157–169	166–178	174–190
6	2	163–175	171–184	179–196
6	3	168–180	176–189	184–202

There are, fortunately, many striking examples of the benefits to health from proper weight reduction by overweights. Thus, high blood pressure, which is more than twice as common in obese men as in average weight men, is often relieved in part by adequate weight reduction. Again, both in this war and in the last one, sharp reductions have been noted in the mortality from the degenerative diseases in belligerent and in neutral countries with limited food supplies. It is generally agreed that this favorable development largely reflects the enforced moderation in personal eating habits.

For men, as well as for women, the reduction of weight to the proposed limits can readily be achieved and will improve both health and efficiency. The few essentials of such a program bear repetition. First, it should be persistently followed; reduction should be slow but steady; and the diet used can and should be well rounded, despite the limitations of quantity. No medication of any type should be taken except under a physician's orders and under his continued guidance. And most important is a physical check-up by a physician before undertaking a weight-reducing regimen.

Accidents Kill More Workers Off the Job than On the Job

AT LEAST three workers in the country at large are killed in off-the-job accidents for every two that are fatally injured while on the job. Even before a man-power shortage brought into sharp focus the heavy toll taken among workers in off-the-job accidents, many safety-minded employers knew that more of their valuable employees were losing their lives or were suffering disabling injuries in accidents away from the plant than in it. Consequently, a number of companies designed their accident-prevention programs to carry beyond the plant boundaries. National and local safety organizations, too, inaugurated "After the Whistle Blows" campaigns to cut down the loss of workers in highway, home, and recreational accidents.

For many industries and occupations, the ratio of workers killed in nonoccupational to those killed in occupational accidents is far greater than three to two. This is clearly brought out in the table on page 9. The facts presented therein relate to white male Industrial policyholders of the Metropolitan Life Insurance Company, aged 15 to 64 years, who were accidentally killed in the years 1937-1939. In all, there were 10,046 accidental deaths; 7,637 of them in nonoccupational and 2,409 in occupational accidents, a ratio of three to one. This is considerably higher than the estimate of three to two given above. It is believed, however, that the latter figure is nearer the experience for the United States as a whole, inasmuch as some industries in which fatal accidents are common

may not be as well represented among policyholders as among gainful workers of the country. Moreover, owing to the marked increase in industrial activity in the past few years, there are more occupational fatalities in a number of employments today than there were in the period 1937 to 1939.

In interpreting the ratios shown

PERCENT NONOCCUPATIONAL OF TOTAL ACCIDENTAL DEATHS AMONG WHITE MALES AGES 15 TO 64 YEARS, IN SPECIFIED OCCUPATIONS. METROPOLITAN LIFE INSURANCE COMPANY, WEEKLY PREMIUM-PAYING INDUSTRIAL BUSINESS, 1937–1939

OCCUPATION	NUMBER OF ACCIDENTAL DEATHS			PERCENT NONOCCUPATIONAL
	Total	Nonoccupational	Occupational	
ALL OCCUPATIONS	10,046	7,637	2,409	76.0
Tailors and other clothing workers	56	55	1	98.2
Waiters	50	49	1	98.0
Shoe factory operatives	48	47	1	97.9
Cotton and woolen mill operatives	126	121	5	96.0
Store clerks and salesmen	337	321	16	95.3
Hotel and restaurant keepers and servants	84	79	5	94.0
Clerks, bookkeepers, and office assistants	378	355	23	93.9
Automobile factory operatives	48	45	3	93.8
Printing trades workers	70	65	5	92.9
Merchants and storekeepers	150	134	16	89.3
Plumbers, steamfitters, and gasfitters	83	73	10	88.0
Furniture and other woodworking factory operatives	53	46	7	86.8
Machinists	151	126	25	83.4
Janitors and porters (except stores and steam railroad)	135	110	25	81.5
Farmers and farm laborers	431	338	93	78.4
Laborers (unskilled)	812	635	177	78.2
Painters and paperhangers	203	157	46	77.3
Automobile and garage mechanics	104	80	24	76.9
Mechanics (except automobile mechanics)	95	68	27	71.6
Carpenters and cabinet makers	220	155	65	70.5
Hucksters, peddlers, and junk dealers	78	55	23	70.5
Iron and steel mill operatives	86	59	27	68.6
Guards, watchmen, and doorkeepers (except prison guards)	107	72	35*	67.3
Welders	34	21	13	61.8
Firemen and engineers (stationary)	101	62	39	61.4
Longshoremen and dock laborers	59	34	25	57.6
Chauffeurs	526	293	233	55.7
Electricians	97	54	43	55.7
Policemen, marshals, sheriffs, etc	73	33	40*	45.2
Track and yardmen (except laborers)—steam railroad	82	32	50	39.0
Firemen (city)	38	13	25	34.2
Structural iron workers	39	13	26	33.3
Trainmen—steam railroad	109	36	73	33.0
Coal miners	326	90	236	27.6
Electric light and power linemen	58	8	50	13.8

*Includes occupational homicides.

in the table for individual occupations, it must be borne in mind that the data do not relate solely to employed persons. Undoubtedly, in periods of full employment the proportion of occupational accidents would generally be higher, and in some instances materially higher, than our figures indicate.

Many occupations, it would appear from the table, are virtually free from special hazard. Among insured clothing factory operatives, cotton and woolen mill operatives, store clerks and salesmen, office workers, and printers, occupational accidents account for less than 10 percent of all accidental deaths. In the light of this finding, one can say that men engaged in such occupations are much safer while at work than they are after hours—at least so far as fatal injuries are concerned.

Fatal accidents of nonoccupational origin are predominant even among men employed in a number of occupations generally believed to involve some hazard to life, and presently regarded as highly essential to the war effort. Machinists, for example, had five times as many fatal mishaps off the job as on the job; farmers and farm laborers 3½ times as many; and mechanics, carpenters, and iron and steel mill workers more than twice as many. The ratio given for farmers may understate somewhat the importance of occupational accidents among them. Because of the nature of agricultural work, it is sometimes difficult to determine whether or not the injury occurred in the course of employment. Welders and electricians also had fewer occupational than nonoccupational accidents in this experience.

It is only in the definitely hazardous occupations that fewer workers are killed off the job than during work. The occupation with the greatest hazard reported in this study was electric light and power linemen, for which more than six times as many occupational as nonoccupational accidents were reported; coal miners had more than 2½ times as many, while among structural iron workers and railroad trainmen the ratio was two to one. Although the *proportion* of nonoccupational accidents is relatively small among workers in these occupations, such fatal mishaps actually occur as frequently among them as among others, consequently there is the same need to direct attention to the hazards to which they are exposed after leaving work.

In the interest of the war effort it is highly desirable that all employers get wholeheartedly behind the movement to make off-the-job safety an integral part of company safety programs. With the wide experience gained in the prevention of shop accidents, employers are in an excellent position to stimulate the interest of workers in matters of personal safety. Employees should give their earnest cooperation in this effort. Mishaps after working hours are financially the most burdensome to wage earners and their families, as such accidents are not covered by compensation insurance.

Comparative Data on the Causes of Death Among Industrial Policyholders

The following table shows the mortality among Industrial policyholders for May 1943 and May 1942, together with the death rates for the first five months of 1943, 1942, and 1941.

DEATH RATES* PER 100,000 POLICYHOLDERS FROM SELECTED CAUSES. WEEKLY PREMIUM-PAYING INDUSTRIAL BUSINESS — METROPOLITAN LIFE INSURANCE COMPANY

CAUSES OF DEATH	ANNUAL RATE PER 100,000 POLICYHOLDERS*				
	May 1943	May 1942	Year to Date: End of May		
			1943	1942	1941
ALL CAUSES—TOTAL	844.8	717.2	857.9	786.8	814.0
Typhoid fever	0.2	0.4	0.2	0.3	0.5
Measles	.9	.8	.7	.7	1.4
Scarlet fever	.5	.4	.5	.5	.6
Whooping cough	1.6	.7	1.4	1.0	1.3
Diphtheria	.7	.4	.8	.5	.7
Influenza	6.4	3.1	8.4	6.3	14.9
Pneumonia (all forms)	42.7	27.1	49.1	38.6	44.3
Tuberculosis (all forms)	43.0	42.3	41.3	43.1	45.2
Tuberculosis of respiratory system	39.0	37.6	37.5	38.9	41.5
Syphilis	9.5	9.9	10.3	10.9	11.7
Cancer (all forms)	104.3	93.4	109.2	103.2	104.6
Diabetes mellitus	31.0	27.2	31.4	30.3	31.0
Cerebral hemorrhage	70.1	58.4	73.9	64.3	65.5
Diseases of the coronary arteries and angina pectoris	64.0	54.7	67.7	62.2	58.4
Other chronic heart diseases†	189.0	154.6	194.0	171.3	173.9
Diarrhea and enteritis	3.9	2.4	3.3	3.3	3.3
Appendicitis	5.6	5.6	5.4	5.6	7.5
Chronic nephritis	52.2	45.7	55.5	53.8	56.9
Puerperal state—total	4.4	3.1	4.2	4.4	4.2
Suicides	7.7	7.8	6.3	7.4	8.0
Homicides	2.6	2.8	3.4	3.7	3.4
Accidents—total	47.0	51.8	48.3	49.4	46.3
Home accidents	11.5	9.8	13.4	12.6	12.1
Occupational accidents	6.3	7.7	6.4	6.4	**
Motor vehicle accidents	10.8	16.7	11.9	18.9	18.5
War deaths (enemy action)	12.0	2.6	11.1	4.7	.1
All other causes of death	145.6	122.0	131.5	121.5	130.4

*The rates for 1943 are subject to slight correction, since they are based on provisional estimates of lives exposed to risk.

†International List (1940) titles 92, 93 (c), (d), (e), and 95.

**Not available.

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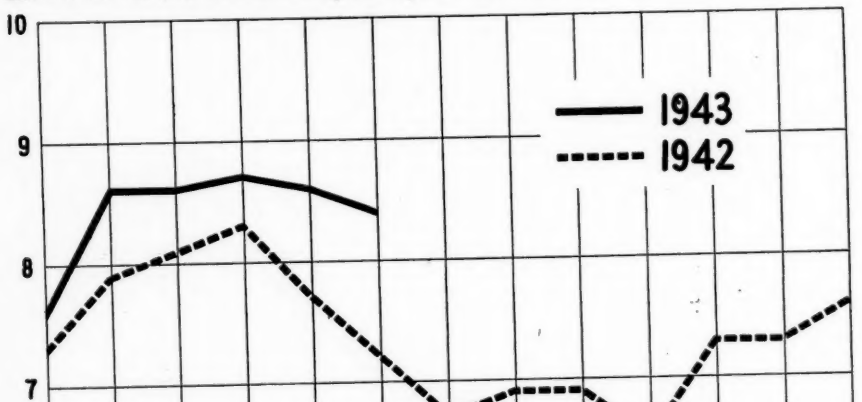
MORTALITY FROM ALL CAUSES

METROPOLITAN LIFE INSURANCE COMPANY
INDUSTRIAL DEPARTMENT, WEEKLY PREMIUM-PAYING BUSINESS

DEATH RATES PER 1,000 ANNUAL BASIS (*1943 figures are provisional*)



(DEC)	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1942	7.9	8.1	8.3	7.7	7.2	6.7	6.9	6.9	6.5	7.3	7.3	7.6
1943	8.6	8.6	8.7	8.6	8.4							

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